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AF/3726
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of

Carl J. Sinfield

Serial No. 09/703,243

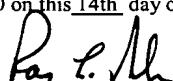
Filed 11/01/2000

For Ventless Tire Mold

)
) Group Art Unit 3726
)
) Marc Quemuel Jiminez, Examiner

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Ray L. Weber

AMENDED BRIEF OF APPELLANTS PURSUANT TO 37 CFR 1.192

ASSISTANT COMMISSIONER FOR PATENTS

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Sir:

This is an appeal to the Board of Appeals from the final rejection in the Official Action dated February 20, 2003, of claims 5-8 of the subject application. A Notice of Appeal was filed for the subject application on August 22, 2003. This Appeal Brief is enclosed in triplicate.

I. REAL PARTY IN INTEREST

The owner of the present patent application is Quality Mold, Inc., a corporation incorporated under the laws of the State of Ohio and having its principal place of business at 2200 Massillon Road, Akron, Ohio 44312. An Assignment was filed in the Assignment Division of the United States Patent and Trademark Office on November 1, 2000 and was recorded in the records of the PTO at Reel/Frame 011275/0677.

II. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to the Appellant or the Appellant's legal representative that will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

The application was originally filed with 8 (1-8) claims. Claims 1-4 were canceled as directed to a non elected invention in Appellant's Response to the first Office Action. Claims 5-8 were finally rejected by the Examiner. The rejected claims on appeal are presented in their amended form, where applicable, in the attached Appendix A.

IV. STATUS OF AMENDMENTS

No amendments have been presented after the final rejection, and all amendments have been entered.

V. SUMMARY OF INVENTION

The claimed invention is directed to process for making a ventless tire mold of individual pitch profiles developed from foundry castings that are nestingly interconnected. In the prior art, as depicted in the flow charts of Figs. 4 and 5, and described in the specification at page 5, line 4 through page 6, line 8, a hand carver or computerized numeric controller (CNC) machine was employed to make a master model of an appropriate material such REN board, plaster, or the like. From the master model, foundry tooling was made and tooling cores were ultimately prepared from the foundry tooling. A core is a sequence of pitches or tire tread elements. An appropriate number of cores, with the requisite pitch sequences for the desired tread patterns, was generated and these cores were then mated in the proper diameter and pitch sequence to define the requisite mold. This assembly was then cured and employed to make castings, from which the molds themselves could be made. In the prior art, undercuts, where sipes must be employed, were achieved only by the

implementation of tedious handwork. Further, prior art molds necessarily required a large number of pinhole vents to allow air to escape from the mold as the tire was expanded into the mold during the curing operation. These pinhole vents required continuous cleaning and removal of cured rubber to prevent blockage and impairing the efficiency of the mold. The concept of the instant invention is the development of a ventless tire mold, that eliminates the prior art pinhole vents by developing a mold from a plurality of individual pitch profiles developed from a foundry casting and nestingly interconnected to define the mold assembly, as set forth in detail in the flow charts of Figs. 6 and 7 and described in the specification at page 3, line 19 through page 5, line 1, and at page 6, line 12, through page 7, line 16.

The invention is best appreciated with reference to the flow charts of the claimed method as presented in Figs. 6 and 7. As shown therein, three dimensional models of tire tread portions are developed as at 136-142 and as explained at page 6, lines 16-18. Sipes are manufactured and then installed at 146 and 150 as a part of the inspection process at 142, 148, 152 and as described at page 6, lines 25-28. Following the generation of foundry tooling, foundry castings are made from the models having the installed sipes at 158, 160 as described at page 6, lines 25-28. The foundry castings are then used to prepare the individual pitch profile at 172-186 as set forth at page 6, line 29 through page 7, line 4. Finally, the mold is assembled by nestingly interconnecting a plurality of the prepared individual pitch profiles at 188-194 and as described at page 7, lines 4-11.

VI. ISSUES

The following issues are presented for review: (1) whether claim 5 is anticipated under 35 U.S.C. §102(b) in view of Galli (5,234,326); and (2) whether claims 6-8 are anticipated under 35 U.S.C. §103 over Galli in view of Applicant's Admitted Prior Art (AAPA).

VII. GROUPING OF THE CLAIMS

Claim 5 is an independent claim that stands or falls alone. Claims 6-8

comprise a group of claims, which do not stand or fall together, and each of which is believed to be separately patentable, and argued as such below.

VIII. ARGUMENT

Rejection of Claim 5 under 35 U.S.C. § 102(b)

The Examiner's rejection of claim 5 as being anticipated by Galli cannot stand. Galli is directed to the prior art that the instant invention seeks to improve upon. Galli teaches the fabrication of cores, as treated extensively in the instant application with respect to the prior art. Galli does not teach the fabrication and joiner in a mold of individual pitch profiles. The elements 10-12 of Galli are not pitch profiles, but are simply denominated as such by the Examiner for purposes of maintaining an improper rejection. Moreover, the ribs 12a do not form sipes, nor does Galli suggest that they do. They are simply ribs, and while ribs may be used to form sipes, not all ribs form sipes and Galli makes no mention of the presence of sipes. At the bottom line, Galli teaches fabrication and interconnection of cores, not pitch profiles, to obtain a tire mold configuration as is well known in the art.

In paragraph 6 of the Examiner's Detailed Action, the Examiner attempts to make a silk purse out of a sow's ear by suggesting that Galli teaches individual pitch profiles 11. But, they are not pitch profiles at all. Rather, the elements 10 and 11 of Galli are shoulder blocks that are employed at opposite ends of center blocks 12, precluding any rejection under 35 U.S.C. § 102 of claim 5. The Examiner has simply sought to rewrite Galli in view of the claimed invention, which is nothing more than improper hindsight.

As to paragraph 8 of the Detailed Action, while Galli might suggest a ventless mold, it is certainly not clear that such a mold is what is intended. Even if that were the case, Galli falls far short of anticipating or rendering the claims of the instant application obvious, as presented herein.

As to paragraph 9 of the Detailed Action, the Examiner totally mischaracterizes the claims advanced. Indeed paragraph 9 is, by itself, a strong argument for allowance of the instant application. The Examiner states "that the features upon

which Applicant relies (i.e., individual pitch profiles cut from foundry castings to form a mold by nesting engagement) are not recited in the rejected claim(s).” That is simply wrong. One cannot read claim 5 without seeing that individual pitch profiles are prepared from foundry castings and are nestingly interconnected to form a mold of individual pitch profiles. Frankly, it appears that the Examiner’s primary basis for rejection is founded on the absence of any understanding of the primary claim that is rejected. All of the features that the Examiner acknowledges would be a basis for allowance are, in fact, present in the claim, although apparently not appreciated by the Examiner.

Rejection of Claims 6-8 Under 35 U.S.C. §103

The Examiner’s rejection of claims 6-8 on the combination of Galli and AAPA is also improper. The AAPA does not employ, teach, or suggest the use of individual pitch profiles cut from foundry castings to form a mold. While it is acknowledged that the use of a multi-axis CNC machine is known in the art, it is not known to use such a machine to cut a three dimensional model of the tire tread portion (claim 6). Nor was it known to separately devise pitch profiles as required by claim 7. Moreover, there is absolutely no suggestion in either Galli taken alone or in combination with AAPA that undercut ribs may be formed in tire tread portions to receive sipes (claim 8). Indeed, there is absolutely no mention of sipes in Galli at all, let alone the provision of undercut ribs. Each of the features of claims 6-8 separately distinguish from the prior art and provide specific steps toward the achievement of a ventless tire mold by nestingly interconnecting pitch profiles as has never been done before.

In paragraph 7 of the Detailed Action, the Examiner goes further by suggesting that because sipes can be formed with a rib, and because Galli teaches a rib, Galli must therefore teach the formation of sipes as set forth in claim 8. Such contorted reasoning again is the result of improper hindsight. While ribs may be employed to form sipes, not all ribs form sipes, but may form any of a plurality of contours in a tire configuration. Galli never mentions sipes, and the suggestion that it does comes

solely from the teachings and claims of the instant application, not Galli nor the AAPA.

IX. CONCLUSION

In light of the forgoing, the Examiner's rejection cannot be sustained. Claim 5 is clearly not anticipated by the Galli reference, and the claims depending therefrom are certainly not obvious in view of Galli or AAPA. While it might be argued that Galli teaches some type of ventless mold, there is absolutely no reference to the forming of a mold by the implementation of pitch profiles formed from foundry castings provided in nesting interengagement. Indeed, there is no mention or suggestion of pitch profiles in Galli at all, nor is there any mention or suggestion of the formation of sipes which is most effectively achieved by the process of the instant invention in which individual pitch profiles are formed. In light of the foregoing, the rejection of the Examiner must be reversed.

Respectfully submitted,



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APPENDIX A

Claims on Appeal:

- 1 5. A method for making a ventless tire mold, comprising:
 - 2 (a) developing three dimensional models of tire tread portions;
 - 3 (b) installing sipes into the models;
 - 4 (c) generating foundry castings from the models having the sipes installed;
 - 5 (d) preparing individual pitch profiles from said foundry castings; and
 - 6 (e) assembling a mold by nestingly interconnecting a plurality of said prepared
 - 7 individual pitch profiles.

- 1 6. The method for making a ventless tire mold according to claim 5, wherein said
- 2 three dimensional models are cut by a multi-axis CNC machine.

- 1 7. The method for making a ventless tire mold according to claim 6, wherein each
- 2 said tire tread portion corresponds to a pitch.

- 1 8. The method for making a ventless tire mold according to claim 7, wherein
- 2 undercut ribs are formed in said tire tread portions for receiving said sipes.